



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,385	07/29/2003	Yi-Lang Ku	67,200-837	6515

7590 11/21/2006

TUNG & ASSOCIATES
838 W. Long Lake Road, Suite 120
Bloomfield Hills, MI 48302

EXAMINER

CECIL, TERRY K

ART UNIT	PAPER NUMBER
----------	--------------

1723

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding..

Office Action Summary

Application No.

10/629,385

Applicant(s)

KU, YI-LANG

Examiner

Mr. Terry K. Cecil

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-13, 15-19 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13, 15-19 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Rejections - 35 USC § 112***

Because of applicant's amendments to the claims, the 112 rejections of the prior office action have been withdrawn.

Claim Rejections - 35 USC § 103

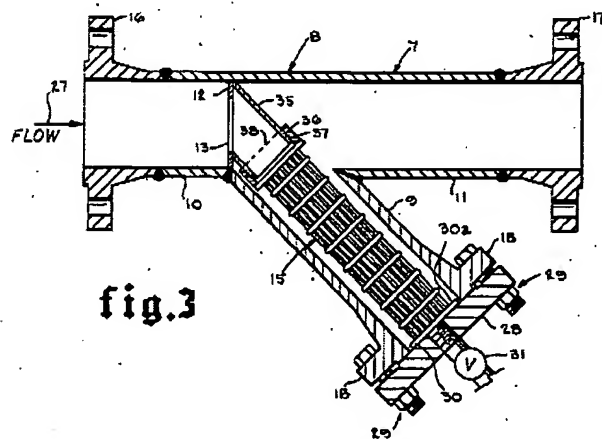
1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

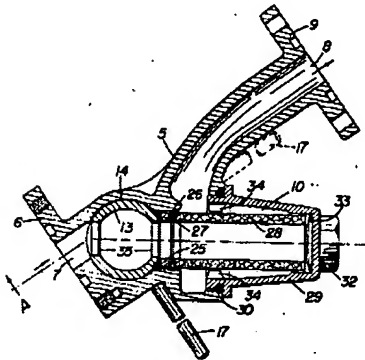
2. Claims 1-2, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tullier et al. (U.S. 4,051,042) in view of Billeter (U.S. 3,748,837) and Farrell et al. (U.S. 3,011,644). Tullier teaches a Y-strainer including a removable filter (15 + the flanges thereof)



within a housing 9 extending at an obtuse angle from the longitudinal axis of the elongated conduit 7 and the direction of fluid flow. The filter extends from the housing and into the conduit to intercept fluid flowing therein. The

Art Unit: 1723

lower end of the housing includes a drain valve 31 (since the valve is open-able it has the ability to perform the intended use of “for flushing said filter without interrupting said fluid flow through said conduit”) [as in claims 1-2]. Flanges 16-17 are provided at the end of the conduit [as in claim 7]. Tullier doesn’t teach a conical filter



housing but such is taught by Billeter as shown by is housing 10 of figure 2. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the housing 9 of Tullier to be conical, as in Billeter since Billeter teaches the benefits of centering and supporting the filter (col. 2, lines 9-16). Such a modification would provide additional support for the filter end adjacent the valve. Upon modification the drain valve 31 would be on the smaller diameter end of the housing [as in claim 1]. It is also pointed out that Tullier teaches changes in shape for his invention (col. 2, lines 64-68).

Tullier, modified by Billeter doesn’t teach a cap opening and cap in the conduit for removing and replacing the filter. However, such a cap 18 and opening is taught by Farrel as shown in fig. 1.

It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the cap 18 of Farrel top of the conduit of the modified Tullier since Farrel teaches the benefit of insertion and removal of the screen (col. 2, lines 22-28). Such would also provide an additional access for the filter from above when the bottom thereof is not accessible depending upon where the filter is installed.

Art Unit: 1723

3. Claims 1-5, 7-12, 15-18, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted (of figures prior art 1 and 2) in view of Cheng (U.S. 4,048,067) and Farrell. Applicant's admitted prior art of figures 1 and 2 teaches the use of a y-strainer in the drain line of both a cooling tower 36 and a wet scrubber 2 and the admitted prior art of figure 3 teaches a filter housing angled obtuse from an elongated conduit and extending to a curved surface thereof [as in claims 21-23] but does not teach a drain valve in the filter housing nor the conical housing and conical filter nor the cap opening and cap in the conduit. However, Cheng teaches a conical filter and housing, as well as a drain valve in a lower end. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention for the housing 30 of applicant prior art to be conical as in Cheng and to include a drain valve, since Cheng teaches the benefit of continuously removing solids from liquids (col.1, lines 33-35) that is enhanced (col. 1, lines 54-62), wherein incoming water washes away solids (col. 4, lines 33-35).

Farrel teaches a cap 18 and opening in a conduit as shown in fig. 1.

It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the cap 18 of Farrell in top of the conduit of applicant's figures as modified by Cheng above, and for the filter of applicant's prior art to be removable since Farrell teaches the benefit of insertion and removal of the screen (col. 2, lines 22-28). Such would also provide an additional access for the filter from above when the bottom thereof is not accessible depending upon where the filter is installed.

Art Unit: 1723

4. Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (of figures 1 and 2) in view of Cheng and Farrell, as applied above, and in further view of Drori (U.S. 4,207,181). Drori teaches a drain valve 328 controlled by actuator/sensor 344/342 communicating with pressure monitoring nipples 368 and 352 [as in claims 13 and 19]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the control means of the Y-strainer of Drori in the Y-strainer of applicant's admitted prior art, as modified above, since Drori teaches the benefit of automatic filter flushing.

Response to Arguments

5. Applicant's arguments filed 9-14-2006 have been fully considered but they are not persuasive because of the following reasons:

- Applicant had amended each of the independent claims to require that the drain valve is openable for flushing the filter without interrupting the fluid flow through the conduit. The examiner reiterates that Tullier is configured such that blow down can occur (the openable of the valve) *when desired*. This would include times when flow is still occurring through the filter. Applicant is reminded that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The examiner contends that Tullier has the ability to flush the filter without interrupting the downstream fluid flow.

According to applicants specification, page 16, beginning at line 14 and as shown in figure 7,

Art Unit: 1723

the aforementioned use is accomplished when flow through the flush valve Q3 is smaller than that through the housing outlet Q2. As shown in figure 3 of Tullier, this is accomplished when the flow allowed through the smaller outlet of valve 31 is smaller than that through the much larger outlet 17. It is contended that the structure of Tullier has the ability to perform as in the claims amended by the applicant even though, Tullier doesn't specify such a method of using.

- Applicant's argument concerning the ball valve member of Billeter is unconvincing since Billeter was only relied upon for his teachings of a conical housing.
- Applicant's argument that the conical filter of Billeter would provide no benefit to Tullier since strainer of Tullier is threadably engaged on the conduit is unconvincing since such modification would still provide the benefit of additional support for the filter end adjacent the valve.
- Applicant's argument concerning that Billeter does not mention in his specification that the filter is conical is unconvincing since drawings in a design patent can anticipate or *make obvious* the claimed invention *as can drawings in utility patents*. When the reference is a utility patent, it *does not matter that the feature shown is unintended or unexplained in the specification*.
- Applicant's argument that upon modification with Billeter, the filter of Tullier would not fit is unconvincing since resizing upon modification not to destroy the invention is within ordinary skill.
- The examiner contends that modifying Tullier to have a conical housing or a filter that is removable does NOT destroy Tullier or make it unsatisfactory for its intended purpose. The

Art Unit: 1723

intended purpose of Tullier is filtering fluids. The modifications presented by the Examiner would *enhance* the intended purpose or operation of Tullier.

- Applicant's arguments concerning the modification of Tullier with Farrel is unconvincing, since Tullier does not require his plate 12 to be welded in the conduit: such is presented as an example only of a type of sealing securement. Upon modification, the plate/filter would have sealing securement as in Farrel, e.g. with lug 36 that would still allow the filter the benefit of being removable. This would allow an additional way to remove the filter from the top when bottom is unaccessable.
- Cheng was relied upon for his teachings of a conical housing, as explained above, modifying the admitted prior art of applicant's figures to have a conical housing would not destroy the invention thereof.
- The examiner contends that the references used in the obviousness rejections are all analogous art since all are concerned with the filtering of fluids in a conduit with a Y-strainer or at least concerning filtering of fluid with a strainer.

Art Unit: 1723

Contact Information:

- Examiner Mr. Terry K. Cecil can be reached at (571) 272-1138 at the Carlisle campus in Alexandria, Virginia for any inquiries concerning this communication or earlier communications from the examiner. Note that the examiner is on the increased flextime schedule but can normally be found in the office during the hours of 8:30a to 4:30p, on at least four days during the week M-F.
- Wanda Walker, the examiner's supervisor, can be reached at (571) 272-1151 if attempts to reach the examiner are unsuccessful.
- The Fax number for this art unit for official faxes is (571) 273-8300.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mr. Terry K. Cecil
Primary Examiner
Art Unit 1723

TKC
November 18, 2006